UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,783	05/05/2001	Michael Neal	DEM1P006	9893

36088   7590   12/06/2005

KANG LIM
3494 CAMINO TASSAJARA ROAD #436
DANVILLE, CA   94306

EXAMINER
VAN DOREN, BETH

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/849,783	NEAL ET AL.
	Examiner	Art Unit	
	Beth Van Doren	3623	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 September 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *See contin. sheet*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Information Disclosure Statements (PTO-1449 or PTO/SB/08); Paper Nos/Mail Date: 20010702, 20010907, 20020716, 20030902, 20030930, 20040217, 20040914, 20041026, 20041105, 20050207, 20050531

DETAILED ACTION

1.   The following is a Final office action in response to communications filed 09/27/05.

Claims 1, 2, and 5-8 have been amended. Claims 9-17 have been added. Claims 1-17 are

pending in this application.

Response to Amendment

2.   Applicant's amendment to the abstract is sufficient to overcome the specification

objections set forth in the previous office action.

3.   Applicant's amendments to claims 5-8 are sufficient to overcome the 35 USC § 101

rejections set forth in the previous office action.

4.   Applicant's amendments to claims 5 and 8 are sufficient to overcome the 35 USC § 112,

second paragraph, rejections set forth in the previous office action.

5.   Applicant's amendment to claim 2 is sufficient to overcome the claim objections set forth

in the previous office action.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2 and 4-8 are rejected under 35 U.S.C. 102(a) and (e) as being anticipated by Cunningham et al. (U.S. 6,029,139).

7.   As per claim 1, Cunningham et al. teaches an apparatus for creating a promotional event calendar, useful in association with at least one store, the apparatus comprising:

an econometric engine for modeling sales as a function of price to create a sales model (See column 2, lines 65-column 3, line 3, column 5, lines 13-23, column 6, lines 1-20, column 8, lines 1-10, column 10, lines 55-65, which discusses modeling sales using price and sales information);

a financial model engine for modeling costs to create a cost model (See column 5, lines 14-41, column 8, lines 1-12, column 10, lines 55-65, column 11, lines 65-column 12, line 5 and lines 45-52, which discusses modeling costs using cost data);

a promotional engine coupled to the econometric engine, and financial model engine to receive input from the econometric engine and financial model engine, wherein the promotional engine analyzes a plurality of offers, a plurality of promotional events, and conditions from the at least one store to optimally match offers with promotional events to create a promotional event calendar subject to conditions from the at least one store (See figure 2, column 2, lines 24-31, column 5, lines 13-42 and 59-65, column 11, lines 35-45 and 65-column 12, line 15 and lines 45-52, wherein an engine uses the output of the other engines to analyze and optimize promotional options to match offers and events (i.e. prices with displays, for example) This creates a schedule of events for future promotions. See column 2, lines 50-60, column 3, lines 1-5 and 15, column 10, lines 60-65, and column 12, lines 20-25, wherein conditions (i.e. sales, promotional

participation, etc.) at the at least one store associated with a retailer is considered in the modeling

of a promotional event).

8.   As per claim 2, Cunningham et al. discloses wherein the promotional engine further

comprises a temporary price reduction optimizing engine for optimizing temporary price

reduction prices after the promotional events and offers have been selected (See column 8, lines

1-11, column 11, lines 35-42 and line 65-column 12, line 12 and lines 45-55, wherein a

temporary price reduction is considered by the promotional engine).

9.   As per claim 4, Cunningham et al. discloses wherein the promotional engine calculates

the value of offers and the value of promotional events by using the financial model and sales

model and selects combinations of the offers and the promotional events (See column 2, lines 24-

31, column 5, lines 13-42 and 59-65, column 11, lines 35-45 and 65-column 12, line 15 and lines

45-52, wherein the promotion engine uses outputs of the financial and sales models to determine

offer and promotion events).

10.   As per claim 5, Cunningham et al. discloses a computer-implemented method for creating

a promotional event calendar, comprising:

        creating a sales model (See column 2, lines 65-column 3, line 3, column 5, lines 13-23,

column 6, lines 1-20, column 8, lines 1-10, column 10, lines 55-65, which discuss a sales model

created in the system that considers sales data);

        creating a cost model (See column 2, lines 45-52, column 5, lines 13-20 and 59-column

6, line 25, wherein a cost model is created in the system and considers cost data);

        determining conditions from at least one store (See column 2, lines 50-60, column 3,

lines 1-5 and 15, column 10, lines 60-65, and column 12, lines 20-25, wherein conditions (i.e.

sales, promotional participation, etc.) at the at least one store associated with a retailer are determined);

determining the value of offers using the sales model and cost model (See column 5, lines 14-41, column 8, lines 1-12, column 10, lines 55-65, column 11, lines 65-column 12, line 5 and lines 45-52, which discuss determining the value of offers using the models);

determining the value of promotional events using the sales model and cost model (See column 5, lines 25-41, column 6, lines 10-12, column 11, lines 65-column 12, line 5 and lines 45-52, which discusses the value of promotional events); and

selecting combinations of the offers and promotional events based on the determined values to create a promotional event calendar subject to the conditions from the at least one store (See column 1, lines 59-63, column 2, lines 24-31, column 5, lines 25-41, column 11, lines 65-column 12, line 5 and lines 45-52, wherein the combination of offers and promotional events are selected based on determined values. See column 2, lines 50-60, column 3, lines 1-5 and 15, column 10, lines 60-65, and column 12, lines 20-25, wherein conditions at at least one store are considered in the modeling of a promotional event).

11.   As per claim 6, Cunningham et al. wherein the creating of the sales model comprises:

creating a plurality of demand groups, wherein each demand group is a set of at least one product and wherein at least one of the demand groups is a set of at least two products (See column 2, lines 25-35, column 4, line 61-column 5, lines 8, column 6, lines 22-40 and 50-62, which discusses demand groups wherein a demand group is one product or more than one product, such as segment or brand family);

creating a sales model for each demand group (See column 2, lines 25-35, column 4, line

61-column 5, lines 8, column 6, lines 22-40 and 50-62, wherein sales data is obtained and

modeled for a demand group); and

creating a market share model for each product in each demand group (See column 2,

lines 45-57, column 4, line 61-column 5, line 12, column 6, lines 22-40 and 50-65, wherein a

model is created concerning the market of the demand group).

12.   As per claim 7, Cunningham et al. discloses the step of estimating net profit from the

selected combination of offers and promotional events using the sales model and cost model (See

column 5, lines 30-56, column 6, lines 1-22, wherein the net profit is estimated by using

optimization, the sales and cost models).

13.   Claim 8 recites equivalent limitations to claims 5-7 above and is therefore rejected using

the same art and rationale applied above.

14.   As per claim 9, Cunningham et al. teaches wherein the conditions from the at least one

store include ad space capacity (See column 8, lines 1-10, 32-37, and 48-55, and tables 5A-B and

6, wherein a feature volume is stored in the system).

15.   As per claim 10, Cunningham et al. wherein the conditions from the at least one store

include display space capacity (See column 8, lines 1-10, 32-37, and 48-55, and tables 5A-B and

6, wherein the display volume is stored in the system).

16.   Claims 11-12 and 13-14 recite equivalent limitations to claims 9-10, respectively, and are

therefore rejected using the same art and rationale applied above.

Claim Rejections - 35 USC § 103

17.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham et al.

(U.S. 6,029,139).

18.   As per claim 3, Cunningham et al. teaches a promotional engine and outputting the

optimized selection, as well as a client/personal computer (See figure 1, column 1, line 64-

column 2, line 7, column 5, lines 14-45, column 11, lines 65-column 12, line 5 and lines 45-55).

However, Cunningham et al. does not expressly discloses a support tool connected to the

promotional engine that receives the promotional event calendar from the promotional engine

and provides a user interface with the promotional event calendar to a client.

Cunningham discloses a system with client/server architecture and models that optimize

promotional planning to create the output of promotional events and offers. Using an user

interface to more efficiently display output to a user (or client) of a system is old and well known

in the computer arts. Therefore, it would have been obvious to one of ordinary skill in the art at

the time of the invention to display the output and optimized results to the user of the system in

order to more efficiently communicate the results to the user for whom the analysis was

performed. See column 2, lines 24-31, which discusses creating a plan to better meet the user's

goals and figure 1 and column 1, lines 64-column 2, line 7, which discuss a personal computer

connected to the system.

19.   Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Cunningham et al. (U.S. 6,029,139) in view of Hillier et al. (*Introduction to Operations*

Research).

20.   As per claim 15, Cunningham teaches wherein the matching of offers with promotional

events involves solving a linear optimization problem (See column 5, lines 25-45 and 50-56,

wherein a linear optimization problem is solved to optimize the promotional plans). However,

Cunningham et al. does not expressly disclose that the linear optimization problem is specifically

an integer problem.

        Hillier et al. discloses an integer problem as a type of linear optimization problem,

wherein an integer programming problem is a linear programming problem that requires some or

all of the variables to have integer values (See pages 5-6).

        Cunningham et al. discloses using linear optimization to find the best promotions based

on volume, price, profit, etc. goals. Using integer programming when some variables of the

problem need to be integer values is old and well-known in operations research, as discussed by

Hillier et al. Cunningham et al. discloses the variable of volume, for example, where the number

of products must be an integer value. Therefore, it would have been obvious to one of ordinary

skill in the art at the time of the invention to use an integer problem in the linear optimization

performed by Cunningham et al. in order to more efficiently select the best promotions at the

least cost in a problem involving inputs that have integer values. See column 5, lines 50-55, of

Cunningham et al. which discloses this motivation.

21.   Claims 16 and 17 recite equivalent limitations to claim 15 and are therefore rejected

using the same art and rationale applied above.

Response to Arguments

22.   Applicant's arguments with regards to Cunningham et al. (U.S. 6,029,139) have been fully considered but they are not persuasive. In the remarks, applicant argues that (1) since Cunningham et al. discusses promoting manufacturers' products based on historical data, the promotional plan generated by Cunningham et al. may not be suitable and/or optimized for a particular retailer's store or chain of stores and that Cunningham et al. does not teach or suggest (2) ad space capacity or (3) display space capacity.

In response to argument (1), Examiner respectfully disagrees. Claim 1 recites the newly amended limitations "creating a promotional event calendar, useful in association with at least one store" and "wherein the promotional engine analyzes [...] conditions from the at least one store [...] to create a promotional event calendar subject to conditions from the at least one store". Examiner points out that nothing in this claim requires that the promotion plan be generated for a particular store or chain of stores. Claims 5 and 8 contain similar wording. The claim language, in its broadest reasonable interpretation, recites that a calendar is useful in connection with one or multiple stores and the promotion engine creates a promotional event calendar after analyzing and considering conditions at the one or multiple stores. Therefore, the claim does not recite for who the promotional plan is being generated (the store, the manufacturer, the retailer in a chain, etc.), just merely that there is some, non-recited relationship between one or many stores and the calendar.

Cunningham et al. discloses that conditions (i.e. sales, promotional participation, etc.) at one or multiple stores associated with a retailer are considered in the modeling of a promotional

event. See column 3, lines 1-5 and 15, column 10, lines 60-65, and column 12, lines 20-25. See specifically column 2, lines 50-60, wherein the data is gathered by sampling every store.

In response to argument (2), Examiner respectfully disagrees. Cunningham et al. discloses storing the data or event type, time domain, and unit of measurement, wherein the event type is a feature and the unit of measurement is volume. See column 8, lines 1-10, 32-37, and 48-55, and tables 5A-B and 6, wherein a feature volume is stored in the system.

In response to argument (3), Examiner respectfully disagrees. Cunningham et al. discloses storing the data or event type, time domain, and unit of measurement, wherein the event type is a display and the unit of measurement is volume. See column 8, lines 1-10, 32-37, and 48-55, and tables 5A-B and 6, wherein the display volume is stored in the system.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jameson (U.S. 6,965,867) teaches generating a schedule for a product and integer programming techniques.

Eder (U.S. 5,615,109) teaches a price schedule, linear programming, and a mixed-integer problem.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth Van Doren whose telephone number is (571) 272-6737. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bvd
November 30, 2005

TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600